

# ISOLATED POWER SYSTEMS CONNECT 2023

Noumea  
New Caledonia

6-10th November  
2023

International technology forum  
For system operators and owners

Two day professional development AND/OR  
3 days technical workshop  
Including full day Energy storage and PV  
showcase

Visit a range of New Caledonia's  
Renewable Energy Technology Pilots

Host



**Centre for  
Renewable Energy  
& Power Systems**

Sponsors



Pacific  
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# Isolated Power System Connect

## Noumea. New Caledonia. Nov 6-10

### Organising Committee

Isolated Power Systems Connect is convened by an organising committee, elected to ensure the venue, program and demonstration projects represent the latest in innovation, as relevant to utility and IPP delegates. The organising 2023 organising committee includes:

- Professor Michael Negnevitsky, University of Tasmania (Chair)
- Dr Richard Rocheleau, Hawaii Natural Energy Institute
- Simon Gamble, Enernet Global
- Alizée Bonnet – Government of New Caledonia
- Nicolas CAZE – Enercal Energie Nouvelles
- Florence Ventura - SPC
- Loic Martin-Cocher – Chef de service Energie (DIMENC – Industry, Mining and Energy Direction)
- Maxime Nachin – Directeur Agence Calédonienne de l’Energie
- Professor Xiaolin Wang, University of Tasmania
- Dr Masoud Karimi, University of Tasmania

### New Caledonian Technology Tour & Networking 8th Nov

Take the opportunity to connect with other participants while you experience the natural beauty and breathtaking scenery of New Caledonia. Tour includes a highlands drive, with VIP access to several Pacific renewable and storage projects.



28 MWp Solar plant - Helio Boulouparis, New Caledonia

# Professional Development Course

## HYBRID IPS MODELLING TUTORIA



Pacific  
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Convened by the



Centre for  
Renewable Energy  
& Power Systems

IPS Connect will include a two-day professional development course, immersing delegates in an accelerated project modelling environment. Delegates will be teamed to navigate a real life IPS project, facilitated by industry mentors, concept guidance and live toolkits.

### 6 Nov – Simulation Toolkits

AM

Topic 1: TBA

Topic 2: TBA

Topic 3: TBA

PM

Topic 4: TBA

Incentives & Control

Topic 5: TBA

Group Exercise:

EVENING

Hosted Delegate Dinner

### 7 Nov – Case Studies

AM

Topic 1: TBA

Topic 2: TBA

Topic 3: TBA

PM

Topic 4: TBA

Incentives & Control

Topic 5: TBA

Group Exercise:

EVENING

Hosted Delegate Dinner

Expert industry facilitators will direct teams through a series of interactive exercises, addressing technology selection, sizing, control and coordination. Delegate teams will present their recommendations based on modelling of current project cases studies.



IPS Connect 2016 Flinders Island





**Day 1**

Mwiré Solar Farm, New Caledonia

**Wednesday, 8 Nov. 2023**

## **NEW CALEDONIAN TECHNOLOGY SHOWCASE & TOUR**

### **VIP Facility Access Including:**

#### **9:30 – 10:30 Helio Boulouparis– Enercal Energies Nouvelles**

Wi Hâche Ouatom is the first and largest photovoltaic energy production unit with storage built to date in New Caledonia. Its name means "ray of sunshine" in the Kanak Tîrî language. This plant is equipped with 32,984 photovoltaic solar panels which will be able to produce the equivalent of the average consumption of 4,900 Caledonian households per year. Thanks to a storage of 7MWh on its batteries, the energy producer can now deliver a constant quantity of electricity to the manager of the electrical system, which buys renewable energy as a priority to meet the demand for electricity.

#### **11:00 – 12:00 Kwita Wije – Akuo Energy**

Kwita Wije is Akuo's third solar project in New Caledonia, inaugurated in February 2020. The Kwita Wije project includes 6 MWp of ground-based photovoltaic panels, an Agrinerie® greenhouse and 3 MW/3MWh of electricity storage. It helps to reduce CO2 emissions by 3,200 metric tons a year, and its renewable electricity production cover the needs of 1,700 homes.

#### **12:15 – 2:30 Focola**

Enercal Energies Nouvelles and Akuo have teamed up with a farmer from the Focola region to develop the first agri-solar power plant in New Caledonia. With production capacity: 1.4 MW, 2 hectares of solar greenhouses, 2 GWh / year of electricity and 200 tons of market garden products. We lunch at this beautiful spot.

#### **3:00 – 4:00 Helio Boulouparis 2**

Hélio Boulouparis 2, the largest solar power plant with energy storage in overseas France. The plant is the second tranche of the solar park which is the most extensive solar program ever carried out in New Caledonia. The first tranche, Hélio Boulouparis 1, was put on stream in 2017.



Helio Boulouparis



Focola





Day 2

Prony Wind Power, New Caledonia

Thursday, 9 Nov. 2023

## TECHNICAL WORKSHOP & DINNER

### LESSONS LEARNT

8:00	Registration
8:20	Open from conference Chair <b>Professor Michael Negnevitsky</b>
8:30	Official Welcome <b>TBA</b>
<b>Session 1: Institutional support</b>	
8:40	PCREE Program – Framework for Energy resilience in the Pacific - <b>Speaker: Solomon Fifita – SPC/PCREE, Tonga</b>
9:10	Energy pricing model and financing in the energy transition perspective - <b>Speaker: Loic Martin-Cocher – DIMENC, New Caledonia</b>
9:40	A European-Indian collaboration for the Electrification of Energy Islands <b>Speaker: Nikos Hatzigiorgiou; NTUA, Greece</b>
<b>Q&amp;A session</b>	
10:10	Q&A session <b>Moderator: TBA</b>
10:40	Morning Tea and networking
<b>Session 2: RE use cases</b>	
11:00	Agrivoltaic for energy and food autonomy in isolated territories - <b>Speaker: Antoine Le Helloco– Akuo, New Caledonia</b>
11:30	Hybridation energy systems offgrid - <b>Speaker: Frédéric de Maneville – Agriblue / Ambi, New Caledonia</b>
12:00	Kalbarri Microgrid - <b>Speaker: Shervin Fani, Western Power, Australia</b>
<b>Q&amp;A session</b>	
12:30	Q&A session <b>Moderator: TBA</b>
1:00	Lunch and networking

### Session 3: Microgrid challenges

2:00	Renewable Integration Challenges on the Alaska Railbelt System - <b>Speaker: Derek Stenclik; Telos Energy, Inc., USA</b>
2:30	Lockhart River Solar Trial - <b>Speaker: Dane Thomas, Energy Queensland, Australia</b>
3:00	Island specific constraints - <b>Speaker: Ludovic Maire – Enercal, New Caledonia</b>
3:30	Solutions and Opportunities for High Penetration of Renewable Energy in Remote Alaska Microgrids - <b>Speaker: Jeremy VanderMeer – University of Alaska Fairbanks, USA</b>

### Q&A session

4:00	Q&A session <b>Moderator: TBA</b>
4:30	Day One Recap and Close

### Dinner

5:30	Meet at Picking up point
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Day 3

Wi Hache Ouatom New Caledonia

Friday 10 Nov. 2023

## TECHNICAL WORKSHOP

### EMERGENT ENERGY FUTURES

8:20 – 8:30 Day 2 recap and house keeping  
Conference Secretariats: TBA

#### Session 1: Technologies for RE integration

8:30 The Need for Dispatchable Firm Renewable Energy - **Speaker: Richard Rocheleau; Hawaii Natural Energy Institute, USA**

9:00 Operation of GFM and GFL Inverters with Synchronous Condensers in Isolated Power Systems - **Speaker: Vahan Gevorgian; NREL, USA**

9:30 Recent advances in storage technologies - **Speaker: Fabien Milesi – Alizés Energie, New Calédonia**

#### Q&A session

10:00 Q&A session  
**Moderator: TBA**

10:30 Morning Tea and networking

#### Session 2: Energy transition for electro-intensive industry

11:00 Energy transition of a metallurgist - **Speaker: Sylvain David - Prony Resources, New Caledonia**

11:30 Storage requirements on an isolated network with electro-intensive industry - **Speaker: Jeremy Ventura – Enercal, New Caledonia**

12:00 Specific challenges about high renewable penetration - **Speaker: Marie-Caroline Lacroix – Koniambo Nickel, New Caledonia**

#### Q&A session

12:30 Q&A session  
**Moderator: TBA**

1:00 Lunch and networking

#### Session 3: Future of storage

2:00 Pumped storage power station project - **Speaker: Serge Roussin – Enercal, New Caledonia**

2:30 Renewable Hydrogen Demonstrator - **Speaker: Attilio Pigneri, H2U, Australia**

3:00 Denham Hydrogen Demonstration Plant - **Speaker: Laurie Curro, Horizon Power, Australia**

#### Q&A session

3:30 Q&A session  
**Moderator: TBA**

4:00 Day two Recap and Close

#### Dinner

5:30 Meet at Picking up point

